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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/047,188	01/15/2002	Brian C. Barnes	2000.056900/TT4089	5070
23720	7590	08/08/2006	EXAMINER	
WILLIAMS, MORGAN & AMERSON 10333 RICHMOND, SUITE 1100 HOUSTON, TX 77042			SON, LINH L D	
			ART UNIT	PAPER NUMBER
			2135	

DATE MAILED: 08/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/047,188

Applicant(s)

BARNES ET AL.

Examiner

Linh LD Son

Art Unit

2135

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 May 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. This Office Action is responding to the Appeal Brief received on 5/26/06.
2. Claims 1-20 are pending.
3. An appeal conference has met and fully considered applicants' remarks in the Appeal Brief. The Conferees agreed with the applicants on the argument on the page 6-12 regarding to the limitation of "multi-table memory". However, a newly found prior art has brought the pending claims 1-20 to the rejection below. Examiner provides a new ground of rejection below for claims 1-20.
4. Reopening of Prosecution - New Ground of Rejection After Appeal or Examiner's Rebuttal of Reply Brief In view of the Appeal Brief filed on 05/26/06, PROSECUTION IS HEREBY REOPENED. A new ground of rejection is set forth below. To avoid abandonment of the application, appellant must exercise one of the following two options: (1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or, (2) request reinstatement of the appeal. If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-7 and 12-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Jensen et al, US/Paten No 5293597, hereinafter "Jensen".

7. As per claims 1 and 12:

Jensen discloses "A method, comprising:

executing a software object (For each executing a software object, Operating System Requires Process A, Process B, and Process C) (Col 3 lines 30-43, and Col 3 lines 5-15);

establishing a security level for said software object" in (Col 4 lines 5-20);

"performing a multi-table I/O (Performing Virtual address Table for Process B, and C by Process A) access using at least one of said security levels (Read, Write, and Excute)" in (Col 4: 21-45, and Col 3 line 60 to Col 4 line 20); and

"executing said function of said object" in (Col 5 lines 40-45, and Col 4 lines 20-45).

8. As per claim 2:

Jensen discloses "The method described in claim 1, wherein executing a software object further comprises using a processor to process software code of said software object" in (Col 3 lines 30-43).

9. As per claim 3:

Jensen discloses "The method described in claim 1, wherein establishing a security level for said software object further comprises assigning a security level relating to a Input/Output (I/O) access of at least a portion of a memory" in (Col 3 lines 50-68).

10. As per claim 4:

Jensen discloses "The method described in claim 1, wherein performing a multi-table Input/Output (I/O) access using at least one of said security level further comprises:

establishing a secondary I/O table (Virtual Address Table for Process A)" in (Col 4 lines 25-35);

"receiving a Input/Output (I/O) space access request based upon executing of said software object" in (Col 4 lines 5-20, and Col 3 lines 5-15);

Art Unit: 2135

“performing a multi-level table access based upon said Input/Output (I/O) space access request using said secondary table and at least one virtual memory table” in (Col 3 lines 50-38, and Col 4 lines 23-48); and

“accessing a portion of a memory based upon said multi-level table access” in (Col 4 lines 23-48).

11. As per claim 5:

Jensen discloses “The method described in claim 4, wherein establishing a secondary table further comprises:

dividing a Input/Output (I/O) space into a plurality of segments” in (Col 4 lines 23-25);

“determining at least one of said segment to omit from said secondary table and at least one un-omitted segment” in (Col 4 lines 23-45, and Col 4 lines 50-55);

“assigning a default security level to said omitted segment;

assigning a security level to said un-omitted segment” in (Col 4 lines 30-40);

and correlate at least one assigned segment with an Input/Output (I/O) space location” in (Col 4 lines 30-40).

12. As per claim 6:

Jensen discloses "The method described in claim 4, wherein performing a multi-level table access based upon said Input/Output (I/O) space access request further comprises:

determining at least one security level that corresponds to a segment in said secondary Input/Output (I/O) table" in (Col 4 lines 23-45, and Col 4 lines 50-55);

"verifying a match between an execution security level to a security level associated with a segment being accessed in response to an execution of said object" in (Col 4 lines 5-20, and Col 3 lines 5-15);

"determining a Input/Output (I/O) space address based upon said secondary table in response to a match between said execution security level and said security level associated with said segment being accessed; and

locating a Input/Output (I/O) device corresponding to said virtual memory address" in (Col 6 lines 46-65, and Col 10 lines 40-50)

13. As per claims 7:

Jensen discloses "The method described in claims 6, wherein determining at least one security level that corresponds to a segment in said secondary Input/Output (I/O) table comprises: determining a physical Input/Output (I/O) device address from said secondary Input/Output (I/O) table" in (Col 10 lines 40-50, and Col 6 lines 55-65);

"determining a segment being executed based upon said physical Input/Output (I/O) device address; and

defining a current security level based upon said determining of said segment being executed" in (Col 4 lines 5-20).

14. As per claims 13-14:

Jensen discloses "An apparatus, comprising:

a processor coupled to a bus;

"means for coupling at least one software object to said processor; a

Input/Output (I/O) device" in (Col 3: 35-37); and

"a Input/Output (I/O) access interface coupled to said bus and said memory unit" in (Col 3 35-37, Figure 1);

"said memory access interface to provide said processor a multi-level table Input/Output (I/O) access interface to provide said processor a multi-level table (Col 4 lines 30-40) Input/Output (I/O) space access of at least a portion of said memory unit based upon at least one security level, in response to said processor executing said software object" in (Col 4: 21-45, and Col 3 line 60 to Col 4 line 20).



15. As per claim 15:

Jensen discloses "The apparatus of claim 13, wherein said Input/Output (I/O) space access interface comprises a Input/Output (I/O) space access table coupled with a secondary Input/Output (I/O) table, said memory access interface to provide a virtual memory addressing scheme to access at least one portion of said Input/Output (I/O) device based upon a security level" in (Col 4 lines 30-40, Figure 1-3).

16. As per claim 16:

Jensen discloses "The apparatus of claim 13, wherein said Input/Output (I/O) device comprises at least one of a magnetic tape memory, a flash memory, a random access memory, and a memory residing on a semiconductor chip" in (Col 3 lines 30-38).

17. As per claims 8 and 17:

Jensen discloses "A computer readable program storage device encoded with instructions that, when executed by a computer, performs a method, comprising:

Executing a software object(For each executing a software object, Operating System Requires Process A, Process B, and Process C) (Col 3 lines 30-43, and Col 3 lines 5-15);

Establishing a security level for said software object" in (Col 4 lines 5-20);

Establishing a secondary input/ouput (I/O) table(Virtual Address Table for Process A)" in (Col 4 lines 25-35);

Receiving an I/O space access request based upon executing of said software object" in (Col 4 lines 5-20, and Col 3 lines 5-15);

"Determining at least one security level that corresponds to a segment in said secondary I/O table" in (Col 4 lines 25-35);

"Verifying a match between an execution security level to a security level associated with a segment being accessed in response to an execution of said software object" in (Col 4 lines 5-20, and Col 3 lines 5-15);

"Determining an I/O space addresses based upon said secondary I/O table in response to a match between said execution security level and said security level associated with said segment being accessed" in (Col 4 lines 5-20, and Col 3 lines 5-15);

"Locating a physical I/O device location corresponding to said I/O space address; and accessing a portion of an I/O device based upon locating said physical memory location" in (Col 4 lines 25-48).

18. As per claims 9 and 18:

Jensen discloses "The computer readable program storage device encoded with instructions that, when executed by a computer, performs the method described in claims 8 and 17, wherein executing a software object further comprises using a processor to process software code of said software object" in (Col 3 lines 35-43).

19. As per claims 10 and 19:

Jensen discloses "The computer readable program storage device encoded with instructions that, when executed by a compute, performs the method described in claims 8 and 17, wherein establishing a security level for said software object further comprises assigning a security level relating to an I/O space access of at least a portion of an I/O device" in (Col 4 lines 30-40).

20. As per claims 11 and 20:

Jensen discloses "The computer readable program storage device encoded with instructions that, when executed by a computer, performs the method described in claims 8 and 17, wherein determining at least one security level that corresponds to a segment in said secondary I/O table comprises:

Determining a physical I/O device address from said I/O space table" in (Col 4 lines 22-45);

"Determining a segment being executed based upon said physical I/O device address; and

Defining a current security level based upon said determining of said segment being executed" in (Col 4:5-20)

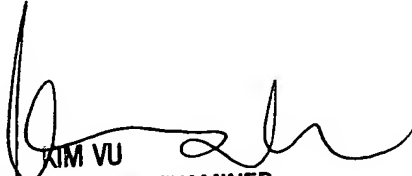
Art Unit: 2135

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Linh LD Son whose telephone number is 571-272-3856. The examiner can normally be reached on 9-6 (M-F).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Vu can be reached on 571-272-3859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Linh LD Son  
Examiner  
Art Unit 2135

  
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